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ABSTRACT

Findings of a study that examined the role of policy implementation in school reform are presented in this paper. The focus is on a British Columbia policy, the Primary Program, which is intended to reform educational practices through the first 3 years of schooling. During the first phase of data collection, interviews were conducted with 12 principals, 44 teachers, and 5 district staff at 12 schools in 3 school districts. Principals' logs of weekly activities were also analyzed. During phase 2, principals and teachers at the 12 schools also responded to a mailed questionnaire. The data were used to develop a model of a set of commitment strategies for policy implementation. Findings indicate that most initiatives taken outside the school were aimed at commitment building. Most inschool components of the model supported the claim that commitment strategies were the primary instruments of change. Conclusions about effective leadership for school reform are that it is shared, it must consume a significant portion of the leadership pie, and it must utilize transformational leadership practices to build commitment. One table is included. (Contains 58 references.) (LMI)

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Toward a Multi-Level Conception of Policy Implementation Processes Based on Commitment Strategies

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Introduction

Policies, as distinct from specific educational programs, bring with them significant implementation and institutionalization challenges which, until recently, have been met only rarely (e.g., Cuban, 1990; LaRocque, 1985; Weatherly & Lipsky, 1977; Bardach, 1978; Leithwood, et al., 1986) and have not been well understood. A small corpus of recent evidence, however gives rise to more optimism about the possibilities of using policies as instruments for school reform. This research also offers insights into processes associated with successful policy implementation (e.g., Anderson et al., 1987; Cohen, 1990; David, 1990; Odden & Marsh, 1989). Building on this research, the study reported in this paper was intended to help develop a more coherent conception of policy implementation processes.

The theoretical starting points for the research were threefold. Rowan's (1990) distinction between "control" and "commitment" strategies for policy implementation was one such starting point. This distinction emerged from an insightful analysis of the differences on which were based the two 'waves' of inconsistent reform initiatives which occurred in the U.S. during the 1980's:

> *In a first wave of reform, many large urban districts and several state legislatures responded to the problem of low achievement in schools by increasing bureaucratic controls over curriculum and teaching ... However, a reaction to this approach formed when it was argued that bureaucratic controls over schools are incompatible with the professional autonomy of teachers ... (1990, P. 353).*

The results of reactions to the first wave "control strategies" for reform was a second wave of reform based on "commitment strategies". Such strategies are aimed at high levels of agreement among organizational members about purposes, beliefs, norms, and assumptions; they place their bets on members'

judgments about most suitable means and focus on helping increase members' problem solving capacities. Control strategies, in contrast, attempt to prescribe what people do in the organization on the assumption that the most productive things to do can be determined centrally. As Rowan's (1990) review of relevant evidence demonstrates, however, both strategies can be useful: the former in relation to complex open-ended tasks; the latter in relation to simpler, routine tasks.

A second theoretical starting point for our research was the adoption of a "multi-level perspective" on the school organization. Use of such a perspective is another important explanation for the insights available in recent policy implementation research. Indeed, Bossert argues that such a perspective "... seems to chart the future for research on school organization effects by overcoming the biases of the bureaucratic model and the loosely coupled formulation" (1988, p. 351). The bureaucratic model stresses hierarchical control of organizational activity; loose coupling views relationships among those at different levels in the organization as largely independent. Multi-level perspectives assume considerable interaction among those at different levels in the organization and conceptualize that interaction as complex and often subtle: for example, school districts create "contexts" within which schools' decision-making takes place and schools' decisions, in turn, shape the context for subsequent district decisions. For these reasons, the conception of policy implementation we intended to develop had to reflect this multi-level perspective.

An especially useful way of understanding the interaction that occurs within and across multiple levels in the organization is provided by social-information processing theory (e.g., Bandura, 1977). This was the third theoretical starting point for our study. Such theory acknowledges the subjectively constructed meaning that each organizational member attributes to their work. It recognizes in addition, however, that such meaning is usually

developed in a social environment (Isen & Hastorf, 1982; Cantor, Mischel & Schwartz, 1982), an environment in which social interpretations make "certain information salient and point out connections between behaviours and subsequent attitudes --- creating meaning systems and consensually shared interpretations of events for participants" (Pfeffer & Lawler - quoted in Hart, 1990, p. 507). Sykes (1990) has recently used this perspective in attempting to better understand the relationship between classroom practices and curriculum frameworks advocated for schools in California. An adequate conception of policy implementation, in our view, had to account for the personal construction of meaning by implementors and the effective of such meaning making on the outcomes of policy implementation. Current evidence warrants special attention to the thinking of school leaders as a key part of the explanation of variation in the nature and degree of policy implementation (e.g., McLaughlin, 1990a; Trider & Leithwood, 1988).

A policy intended to reform educational practices through the first three years of schooling provided the focus for the study. Entitled "The Primary Program", the policy was developed by the British Columbia Ministry of Education in response to recommendations of a royal commission report (Sullivan Royal Commission, 1989). It was the first of a sequence of three closely related policies planned for implementation by the Year 2000, the remaining two aimed at the intermediate and senior years of schooling, respectively. Two documents describe the Primary Program. The Foundation Document (1990) provides an overview, outlines purposes and guiding principles and contains extended descriptions of program goals, assessment practices and curriculum components. A Resource Document (1990) provides additional information and advice regarding curriculum planning, assessment, implementation, parents "as partners" and considerations for first nation, ESL and other children with special needs.

Many features of the policy emerge from an image of learners as active constructors of personal meaning (e.g., Pechman, 1990). The policy's image of teachers as "enabling learners" through the facilitative environments and experiences which they make available to learners, gives considerable weight to views of teaching as "enhancing natural development" and "stimulating conceptual change" (Scardemalia & Bereiter, 1989); it downplays "cultural transmission" and "training of skills" views of teaching. Whole language approaches to language instruction and the use of manipulative materials in teaching mathematical concepts are examples of practices advocated by the policy.

Our study took place during the first year in which the Primary Program policy was being implemented. Data to develop our conception of policy implementation processes were provided in response to four general questions related to activities in British Columbia during that initial year:

- What were perceived to be the outcomes of actions taken to implement the policy during the first year?
- What actions were taken by those outside the school to help implement the policy and what was the relationship of those actions to outcomes?
- What in-school leadership actions were taken to foster policy implementation and what was their relationship to outcomes?
- What other actions in the school were relevant to policy implementation and what was their relationship to outcomes?

Method

Sample

Twelve schools in three districts (four schools per district) were selected for the study. Eight of these schools had volunteered to be pilot schools ("Lead Schools") for implementing the policy. Four were chosen from a total of seven elementary schools in one district all of which were initiating activities

related to the policy. Aside from willingness to participate in the study, selection criteria aimed to ensure variation in district size, rural/urban location, school size, gender of school administrators and their length of experience in either vice principal and/or principal positions. These five variables served as sampling criteria because of their plausible contributions to variation in approaches to policy implementation and school improvement. For example, Walberg and Fowler's (1987) review of evidence concerning district size suggested that "smaller districts obtain more achievement value per dollar (p. 8)". This effect is at least partly explained by the more "efficient production of educational outcomes" (p.8) like approaches to school improvement. Coleman and La Rocque's (1989) evidence, also associating greater effectiveness with smaller districts, explains such effectiveness in terms of the culture fostered by superintendents. Evidence provided by Louis (1989), demonstrates quite direct effects of district location on approaches to school improvement, as well as the propensity to change; more directive, "hands-on" forms of leadership from the superintendent seemed necessary for school improvement initiatives to succeed in rural as compared with urban districts.

School size potentially shapes approaches to school improvement. As Rosenholtz (1989) suggests, this variable may influence the ease of teacher and administrator contact; the larger the school, the fewer the opportunities for substantive interaction. A much debated variable, administrators' gender, has also been used to explain variation in approaches to change: female administrators, on average, are reported to devote greater and more direct attention than males to classroom instructional practices and to use more supportive leadership behaviors (e.g., Shakeshaft, 1987). Finally, there is little solid evidence to suggest that length of experience as an administrator is significantly associated with variation in administrators' approaches to school improvement (e.g., Salley, McPherson & Baehr, 1978). It was used as a sampling criterion in this study,

however, because of the nature of the policy serving as the focus of school improvement efforts. This policy, as described earlier, represents a dramatic departure from instructional practices considered effective in schools a decade ago and, hence the likely instructional practices of principals with lengthy administrative experience. In contrast, the policy legitimates and extends instructional practices that may have been well mastered by those recently appointed to administrative positions. As a consequence, these two groups of principals may be expected to vary considerably in the nature of the leadership they are prepared to offer in implementing the policy.

Data Collection Procedures

Although debates continue about the relative strengths of qualitative and quantitative methods, we find to be compelling arguments for the value of multi-methods research (e.g., Smith, 1983; Matheson, 1988; Firestone, 1987). These arguments concern the advantages of such research in triangulating on the truth, given a positivist epistemology, or providing different images of understanding, from an idealist perspective. More satisfactorily, as Miles and Huberman argue:

> "both neo-positivism and neo-idealism constitute an epistemological continuum and not a dichotemy ... no social phenomenon, we believe, is wholly idiosyncratic, nor is any overarching social pattern uncontingent" (1984, p. 21-22).

For us, at least, this justifies the use of methods with different limitations and complementary strengths as a way to increase the confidence that one can place in research results.

Interview data were collected from 12 principals, 44 teachers and 5 district staff in two phases: the fall of 1989 and the spring of 1990. In both phases, principals and teachers were interviewed about policy implementation and school improvement processes for about 45 minutes. Principals also were asked to

keep a bi-weekly log of their activities related to the policy and provide protocol data related to their thinking and problem solving using two types of process-tracing methods (Hayes and Fowler, 1983): think-aloud methods and stimulated recall. These methods have been shown to be reasonably free of the major threats to the validity of verbal reports (Nisbett & Wilson, 1977) including the distorted reporting of cognitive processes, incompleteness of description and failure of respondents to rely on memory or to rely only on what can be retrieved from long term memory. Both methods draw on the contents of respondents' short term memory and such memory for cognitive processes appears to be accurate (Ericcson & Simon, 1984).

Teachers and principals also responded, in Phase Two, to an 87 item, five-part, mailed questionnaire. Parts 1 and 5 of the instrument included questions regarding selected aspects of respondents' background as well as overall responses to the policy implementation process. Part 2 asked for responses to 13 leadership strategies identified through reviews of previous research (Craig, 1990; Trider & Leithwood, 1989) as potentially helpful for program or policy implementation. The third part of the survey asked questions about a set of 38 factors, identified through previous research (Trider & Leithwood, 1988, Scott, 1990) as influencing program or policy implementation.

The 17 items in the fourth part of the survey included potential implementation effects directly related to the policy's intentions (e.g., integration of subject areas, removal of grade levels) as well as effects related more generally to the capacity of the school to improve and to adapt to change (e.g., teacher collaboration).

Data Analysis

All interview data were tape recorded, transcribed and content analyzed using codes suggested by the conceptual framework guiding the study. Principals' journals were content analyzed in a similar manner. Responses to the survey were entered into a computer file and a series of statistical analysis (described in the Results) carried out to help answer each of the five research questions. Analyses were carried out separately for the responses of principals and teachers. Combined responses were also analyzed.

Results

In this section, we summarize the conception of policy implementation resulting from the study. We then describe in more detail the meaning of each of the constructs and variables and the context of the twelve schools implementing the Primary Program policy. Interview, journal and survey data are all used for most of these purposes. Relevant results of interviews and journals are described throughout this section. Table 1 summarizes our analysis of the survey data. The means and standard deviations of respondents' ratings (principals and teachers combined) of the importance of each item to the implementation process were calculated. Each item in the survey was classified according to the constructs in the model of policy implementation described in the next sub-section. The reliability of the scales thus formed (where there was more than one item) were estimated using Cronbach's Alpha; reliabilities of .80 or higher are normally considered desirable, although reliabilities as low as .60 may be considered acceptable for scales with few items. Correlations (Pearson product-moment) were calculated between each scale or sub-scale and four categories of policy implementation outcomes. Table 1 reports results with the individual as the unit of analysis. A oneway analysis of variance was conducted to test for differences across districts and across schools within districts.

Insert Table 1 here

A Conception of The Policy Implementation Process

Figure 1 summarizes the policy implementation process resulting from the study. This conception emerged as a consequence of multiple reanalyses of both the interview and survey data. While our study began with three theoretical starting points, the conception (Figure 1) may be considered a type of "grounded theory" although it was arrived at through procedures not typically associated with the development of such theory (e.g., Glaser & Strauss, 1967).

Insert Figure 1 here

The model acknowledges four political and organizational contexts of significance for individual implementation: the school itself, the school community, the school district and the Ministry of Education. Because of the directness of its influence on students, as compared with the Ministry and District, our model identifies six sets of variables associated with the school construct. These variables were initially identified in a review of effective schools research (Leithwood & Batcher, 1988) and subsequently demonstrated to be value in explaining variation in the retention rates of secondary schools (Leithwood, Lawton & Cousins, 1989; Joong, underway). Of course, the School Community (which includes parents) has an even more powerful, direct influence than Schools on students. We did not elaborate further on this construct because of our primary interest in the role of schools in policy implementation and school improvement.

One of our theoretical starting points for modeling policy implementation argued that the outcomes of policy implementation depend on the subjective meaning attributed to policy initiatives by implementors and that such meaning was socially constructed. Based on this perspective, the constructs and variables in our revised model are defined in terms of the perceptions of school-based implementors. Given a summary of evidence from this study (described more fully in the next sub-sections), these definitions are as follows:

- Ministry: the extent to which school staffs value the initiatives of Ministry personnel to explain the policy and its implications for their work; and the perceived adequacy of the curriculum resources, money, personnel and other resources provided by the Ministry;
- District: the degree to which staffs perceive as helpful the leadership provided by district personnel and professional associations, district staff development opportunities, resources and district policy initiatives in support of Ministry policy;
- School Community: the extent of support or opposition from parents and the wider community for the policy as perceived by staffs;
- Goals: the extent to which staff perceive that the goals of the policy are clear and are compatible with their own goals and the goals of the school;
- School Leadership: the extent to which staff believe that shared vision is developed, group goals are pursued and teachers experience support, pressure and intellectual stimulation related to their policy implementation efforts;
- Teachers: the extent to which teachers believe that they participate in policy implementation decisions, believe the policy is compatible with their own views and feel committed and motivated to implement the policy;
- School culture: the degree to which staff within the school perceive themselves to be collaborating in their efforts to implement the policy;
- School programs and instruction: the extent to which the policy is perceived to be compatible with teachers' views of appropriate programs and instruction and the priority given by teachers to policy implementation;

- School policy, organization and resources: the extent to which staff perceive school policies, materials, finances and teacher release time to support policy implementation. School size (FTE, numbers of students, size of primary division) is also included in this variable.

- Outcomes: staffs' perceptions of which aspects of policy they have been attempting to implement and the effects of those attempts on both students and the school organization.

The remainder of this section of the paper reports in more detail, results of our study in relation to each of the constructs and variables in Figure 1. This is the case even though this conception of the policy implementation process was an outcome of our study. We did not start out to systematically collect evidence about each variable. Therefore, the amount and quality of data collected about each of the constructs and variables was uneven.

Outcomes of Policy Implementation

As Figure 1 suggests, outcomes were of three sorts: aspects of the policy selected for initial implementation, perceived effects on students and on the school itself. In this section both survey and interview data are summarized with respect to outcomes. As well, survey data is used to examine possible district level differences in outcomes.

A representative flavor of those aspects of the policy which schools focused on in the first year of their efforts is evident from this principal's remarks:

> *The move from basals to literature-based programs is being implemented in all our classes. All eight classroom teachers are doing that. A move toward accepting a variety of representations for what a child thinks is being done in all classrooms. A 'can do' approach to assessment is occuring in all classrooms... They're using the heterogeneous groupings of children because nearly all of them are using one form or another in cooperative learning. They're all using process learning. We've moved very far that way.*

The policy itself was a bundle of 13 more or less related innovations focusing on pedagogy (5 components), facilities and organization (5 components) and such aspects of social equity as gender equity (2 components). Based on both open-ended and fixed response interview data, it seems evident that most of the pedagogical components of the program were receiving attention from most of the schools; several organizational components were receiving similar attention. No explicit mention was made of the equity components.

These results suggest that most schools were involved in the refinement or further development of the existing practices of many of the primary teachers. "Redistributive" components of the innovation (greater attention to special needs students, multicultural and gender equity) appeared to be receiving less explicit attention at the time of data collection. These components may have been the object of previous attention and no longer in need of special effort, in the teachers' view, however. And while parent involvement was an ongoing feature in many schools, explicit attention to parents as "partners in instruction" was also minimal.

There were no striking district-level differences in the policy components selected for implementation. The following comments by a teacher illustrate the type of effects on students perceived by school staffs:

> *Students are more confident that they can do things. Even my younger ones consider themselves as writers and readers; they want to be authors when they grow up. They are more confident that they can do something and the rest of the children will accept whatever they have done. They are more open about sharing.*

During the interviews, a total of 18 outcomes for students were identified, 17 of which were clearly positive (the one negative outcome, identified by only one school staff was "a wider gap

between top and bottom students"). Those student outcomes mentioned by a third or more of the twelve school staffs included:

- greater tolerance and willingness to help one another (6 staffs);
- improved writing (5 staffs);
- higher self-esteem (5 staffs);
- strengthened relationships with peer (4 staffs);
- more positive attitudes (4 staffs).

Of 17 outcome items included in the survey, three concerned students. As a group, these outcomes were given higher ratings than any of the other sets of outcomes. "Positive attitudes toward learning" (also mentioned prominently in the interviews) was given the highest rating of the three followed by "active learning with manipulative materials" and "actions and behaviors reflecting the Primary Program goals". A oneway analysis of variance revealed statistically significant differences among districts in the rating of two of these items and for the mean of the three items together. Ratings provided by District Three staff were highest in each case, District One lowest.

With respect to effects of policy implementation on the school, these comments by a principal and teacher, respectively, exemplify the thrust of staff opinion:

> *They are more excited about their teaching now, or maybe more aware of their methods. Before they taught and it was more or less that they had done that for years and years, and they were sort of in the rut, and they would just do one little thing that would change it from the year previous. Whereas I think now they are adapting their methods more.*
>
> *Before I was an isolated teacher in the school, teaching my own program, now we work as a team, we do our planning as a team, we do our teaching as a team, we implement all the strategies as a team and it has lessened the workload.*

As Figure 1 indicated, our framework conceptualized "the school" in terms of six variables. Results of the interviews identified

16 effects related to four of these variables. Effects mentioned by at least a quarter of the school staffs included:

- Teachers: increased workload (3 staffs); increased pleasure and satisfaction from teaching (7 staffs); a more reflective attitude toward own practices (4 staffs); more credibility in eyes of others (3 staffs).
- Culture: team building (10 staffs).

Only four school effects could be viewed as negative and three of these were mentioned by only one school staff.

The survey included 13 possible outcomes for the school. Only one of these items concerned Policy and Organization (removal of grade levels). Seven items were about Culture and six were about Programs and Instruction (these items are outlined in Table 1). Overall, the highest ratings were awarded the Programs and Instruction (P&I) items, the lowest the Policy and Organization (P&O) item. Among individual items, the five most highly rated included:

- a greater variety of learning settings provided (P&I);
- evaluation of a greater variety of student work (P&I);
- integration of subject areas (P&I);
- teachers seek to increase their knowledge and skills (Culture)
- Student grouping using factors other than ability (P&I).

The oneway analysis of variance revealed only two statistically significant district differences in respect to school outcomes. One of these differences occurred in relation to a Culture item, "staff input into decisions"; the second difference was for the mean ratings of the six Programs and Instruction items. In both cases, District Three ratings were highest, District One lowest.

With respect to the preliminary outcomes of policy implementation, in sum, principals and teachers were clearly very optimistic. Virtually all outcomes were perceived as positive. This was the case for both student and school outcomes, suggesting

that the implementation process was perceived as meeting both immediate policy goals as well as longer-term organizational capacity-building goals. Of course, one might dispute these results as not "objectives" - as the rosy perceptions of those with a vested interest in the success of the policy. But for our purposes, this subjective sense of success is highly significant, quite aside from its "objective reality": it signifies participation in a change process that seems to have captured the commitment of participants. At the very least, it has not discouraged that commitment. Hence, as we move, in the next section, to describe that process, we have some assurance of its value.

Variables Outside the School and Their Relationship to the Outcomes of Policy Implementation

Figure 1 identifies three constructs outside the school which are theoretically related, both directly and indirectly, to policy implementation outcomes. These constructs are associated with the School District, the Ministry of Education and the School Community. This section briefly describes initiatives to implement the policy associated with each of these groups and the relationship of those initiatives to the outcomes described above. The quantity of data were especially uneven in this section with by far the bulk of it about school districts.

Actions of School Districts and Relationships to Outcomes

Information used to describe district initiatives was obtained through interviews with a key district staff member in each district and perceptions of principals and teachers provided through the interviews and survey.

The three school districts which participated in this study reflected the variation in size of districts within the province.

District One was small with seven elementary schools, District Two was considered large with 39 elementary schools and District Three was medium-sized with 24 elementary schools. District One decided not to appoint lead schools for Primary Program implementation, choosing instead to distribute policy-related resources more or less equitably among the seven elementary schools. Districts Two and Three designated specific lead schools after giving all elementary schools an opportunity to submit brief proposals for how they would use the resources within the criteria for lead schools set by the Ministry. As it happened, all applicants were successful and Districts Two and Three had five and seven lead schools, respectively.

The effects of district initiatives appeared to be subtle yet pervasive. Interview data suggested that school staffs did not perceive many district initiatives to be of great assistance in achieving policy implementation outcomes. Consistent with McLaughlin (1990), Firestone (1989) and David (1990), district in-service was the most frequently mentioned initiative, reported by four staffs as one reason for their choice of implementation focus; one school staff identified such in-service as the "most helpful" initiative in their efforts. A District Three staff member observed:

> *There have been incredible numbers of (district) inservice sessions. Not all of them are limited to primary but they all have application. Also, there have been helping teachers prepared to come and teach for us; if you wanted them to a math helping teacher would come and show manipulative math and so on.*

Survey data also suggest that school staffs did not explicitly identify district initiatives as very significant. The District scale formed by four items (see Table 1) ranked seventh in importance and was unrelated to any of the categories of policy outcomes (the reliability of this scale was marginal at .61).

In spite of the explicit attribution by school staffs of only modest influence on policy implementation by district initiatives, a much more pervasive district effect is evident in other parts of the interview data. Districts were largely responsible for the provision of monetary resources, materials, and release time to school staffs. These were considered adequate in almost all schools in two of the districts but not in most schools in the third district. Physical arrangements were judged to be adequate by all schools in one district, not adequate by all schools in a second district and mixed in the third. All schools in one district judged personnel resources to be inadequate. Overall, "inadequate facilities and resources" was the most frequently identified obstacle to policy implementation with teachers (54%) and principals (50%).

Even stronger district effects were evident from a oneway analysis of variance carried out across districts on responses to the survey. Of the 21 individual items, scales or sub-scales identified in Table 1, there are statistically significant differences among districts on 10 of them. In all cases, District One ratings are lowest. District Two and Three more or less share highest ratings (tied in the case of one sub-scale, District Three was highest on five scales or sub-scales and District Two highest on four). Results obtained with the Bartlett-Box test of homogeneity of variance among groups suggest no significant variance across schools within districts, except in the case of three individual items.

In sum, district initiatives were perceived to be of modest value in fostering change at the school level. The provision of extensive staff development, materials, curricular resources and release time were among the variables considered most helpful by school staffs. These district-level initiatives have been identified as important in previous research, also (e.g., Anderson et al., 1987; Fuhrman, Clune & Elmore, 1988).

Actions of the Ministry of Education And Relationships to Outcomes

> *We showed the first (Ministry) video tape to the parents. There is another one that just came out, we received it just a few days ago and I've seen parts of it. It sounds good; it's from the prospective of the teacher, principal and parents ... We all (principals in the district) attended the Ministry session on not just the primary program, but the Year 2000 document.*

Interview data identified several Ministry initiatives considered by respondents to be worth mentioning (without being prompted). Among the initiatives which were identified as useful by at least several school staffs were summer institutes (which influenced half the school staffs' choices of policy components to be implemented), resources, "the binder" of Primary Program material and the Ministry's implementation team. Four school staffs found the lack of specificity in policy documents to be unhelpful. While these initiatives were perceived to contribute to policy implementation outcomes in a general way, responses to one additional "initiative" included on the survey concerning the Ministry (availability of Ministry personnel) was much less positive. This item was ranked twelfth of thirteen among the scales and items in Table 1 and was not related to any of the categories of implementation outcomes.

The School Community and Relationships to Outcomes

> *In general, the parents will be very supportive. They're already used to the open area idea and they know we work together and so there's a lot of things in place in those kinds of terms but they are a very high income group of people, successful, and they do have some pretty clear ideas about academic standards and about working hard and all those kind of things which occasionally they are not satisfied with. We do have to be very careful that the parents understand why we do the things we do and I think we have to be not too impulsive in the way we go about doing the changes.*

The school community appeared to be a more significant influence on the thinking and actions of principals than teachers. For example, parental concerns were viewed as obstacles to

implementation by only 14 percent of teachers interviewed whereas three quarters of the principals identified such concerns as significant for their work. Parents lack of familiarity with the purposes of the Primary Program were significant for 67 percent of principals also. The effects of parental concerns and lack of familiarity with the program were not clear in the interview data, although there was some suggestion that choice of policy components for implementation may have been influenced by parents in several schools.

Responses to the two school community items on the survey (Table 1) also indicate modest influence on outcomes. The scale formed by these items is ranked eleventh of thirteen. This scale is significantly related to outcomes associated with programs and instruction.

School Leadership and Relationships to Outcomes

Content analysis of interviews with the twelve school staffs identified leadership for policy implementation being exercised, in their view, by those in five separate roles. To estimate the contribution of each of these sources of leadership, we analyzed the interview data impressionistically: that is, we formed a judgement about whether the leadership contribution was low, medium or high by interpreting the words used in relation to leadership by the majority of staff members in each school.

In spite of the extensive collaboration among teachers in many of the 12 schools, principals were most frequently identified as providing leadership and, in the majority of cases, that leadership was viewed as making a significant contribution. Important in interpreting these results is the fact that, in one of the three districts, primary consultants were specifically hired by the district to provide in-school leadership for implementing the Primary Program. In those 4 schools (and only in those 4 schools) the district consultant role was viewed as

providing highly valuable leadership. Even with the presence of these consultants, however, staffs in two of the four schools rated the leadership contribution of their principal as medium or high: staffs in the other two schools rated principal leadership as low. Team leaders were viewed as providing moderate leadership in three of these same four schools. Four schools, two in each of the remaining two districts, associated leadership with both principals and teachers. Two of these schools rated the contribution of both principals and teachers as high. In only one school was the vice principal mentioned and her contribution was highly rated. This was a school in which the principal had delegated to the vice principal special responsibility for policy implementation.

The survey also asked a question concerning the source of "key leadership" for school improvement related to the policy. In this case, 15 percent of respondents identified principals, 17 percent some member(s) of primary staff acting informally and 30 percent of staff equally. These results are somewhat at odds with interview results in awarding less importance to the principals' role: they do suggest, however, that, between them, teachers and principals were seen to carry the leadership load. In a number of schools, it may be that leadership was shared between the principal and another person without a formal leadership role - someone playing a "second change facilitator role".

Interview data suggested that leadership was associated with at least 15 different functions, a number of which (with several exceptions) only principals and the one vice principal in the sample appeared to carry out. These included:

- organizing and allocating resources (e.g., money, release time, materials;
- involving teachers in decision-making;
- promoting collaboration;
- organizing visits and visitors.

Several or more principals were also viewed as providing leadership when they:

- provided in-school staff development (which three were perceived as doing);
- informed and involved parents in implementing the policy (by four);
- provided background reading and information (by three);
- served as mentor (two principals); and
- initiated other actions relevant to policy implementation (three principals).

Leadership functions most frequently associated with team leaders, district consultants and teachers included: passing on information from the district; representing the school at district meetings; chairing meetings; acting as a mentor; and initiating activities related to the policy. Only district consultants, among this group, were associated with staff development functions.

Principals were interviewed about policy implementation using questions very similar to those used with teachers. In addition, however, data were collected from principals about their problem solving processes - policy implementation being the focal problem. Results of these interviews (reported in more detail in Leithwood & Steinbach, in press) provide additional confirmation for some of the results reported above: they also provide a more coherent picture of the different patterns of leadership engaged in by the principals.

The twelve principals appeared to engage in 4 distinctive patterns of practice in their efforts to solve the policy implementation problem. Three of these patterns appeared to be quite helpful, given the contexts of their schools; teachers ratings of the helpfulness of principal leadership support this claim. Two principals engaged in a pattern of practice which we

label "building-centered management". This pattern is quite consistent with a commonly found pattern in research on principals (which Leithwood and Montgomery, 1986 called "administrators"), a pattern primarily focused on school routines and organization. There is little direct involvement by these principals in matters of curriculum and instruction. The goal of building managers typically is to "run a smooth ship". In this study, the two principals classified as building headed schools in the district which had hired primary consultants to help implement the policy. These principals were little involved in policy implementation and teachers rated their leadership contribution as low. While this district's decision to rely on primary consultants appears to reduce the leadership demands on principals, it is interesting to note that the other two principals in the same district did not behave like building managers. Their leadership contribution was rated by their teachers as medium in one case and high in the other suggesting that there were many useful leadership functions to be performed in addition to those performed by the primary consultants.

One of these two principals and one principal from another district engaged in a pattern of practice we labelled "teacher-centered management". These principals were supportive of the policy implementation effort and reasonably knowledgeable about the policy. They were also intellectually engaged in the implementation process, interacting from time to time with teachers. But their involvement was neither intensive nor particularly direct. Both school staffs, however, rated this pattern of practice as quite helpful.

Five principals engaged in a pattern of practice we labelled "indirect instructional leadership"; one of these principals was from the district which had primary consultants. Principals engaged in this pattern were very knowledgeable about and supportive of the implementation effort. In addition, however, they were intensely involved in creating the conditions in the

school (second order changes) which would give teachers the best chance of successfully implementing the policy (e.g., group meeting time, greater involvement in decision-making). They developed a positive school climate and ensured opportunities for teacher collaboration, for example. They also monitored implementation progress, staying on top of it and making sure that it occurred. However, they did not become involved in modeling classroom practices. Teachers rated as quite helpful the leadership contribution of four of these five principals.

Three principals were much involved in the classroom practices associated with the policy. We labelled this pattern "direct instructional leadership" - a pattern rated highly by school staffs and involving the demonstration of new practices, in-class assistance to teachers, coaching and the like. These principals also paid close attention to the need for second order changes in their schools, as well.

The survey included 20 items concerning leadership identified from a review of research. Eighteen of these items were clustered into four scales and two items were treated separately as indicated in Table 1. Bass' (1985) conception of transformational leadership, discussed further in the Conclusion, gave rise to the four scales. Transformational leadership encourages fundamental change in organizational members by elevating their personal goals, commitment to the organization and capacity for performance. This occurs, in part, as the leaders communicate a vision of the organization, help develop group goals to which there is strong commitment and provide support for individual effort and intellectual stimulation. The change literature also suggests that persistent pressure from those in leadership roles is often a requirement for success (e.g., Huberman and Miles, 1984).

Table 1 indicates that the mean ratings for items in the transformational leadership scales were among the highest ranked

in the survey as a whole. "Building group goals" was tied for first and "providing a vision of the organization" was ranked fourth. "Leadership support" and the "provision of intellectual stimulation" were ranked sixth and fifth respectively. "Leadership pressure" and "principal pressure" were ranked eighth and tenth respectively.

As Table 1 also indicates, five of these six (modestly reliable) scales concerning leadership were significantly related to one or more of four categories of outcomes examined in the survey. Leadership vision was significantly related to three of the four sets of outcomes; building group goals and leadership support were related to two sets of outcomes. Intellectual stimulation and leadership pressure were each related to one of the sets of outcomes.

In sum, data from the study concerning school leadership suggest that it was widely distributed in many schools but that principals played a crucial role in the provision of leadership much of the time. The data also confirmed the existence of four patterns of school leadership among groups of principals and the positive contribution to school improvement of those two patterns we labelled "direct" and "indirect" instructional leadership. None of this is surprising. More novel, however, is the attention awarded by the data to a set of leadership practices associated with transformational leadership theory; we explore these practices further toward the end of the paper.

Other School Variables and Their Relationship to Outcomes

Five within-school variables other than leadership, included in our conception of policy implementation (Figure 2) were used to organize data reported in this sub-section. These variables include Goals, Teachers, Culture, Programs and Instruction, and School Policies and Organization.

Goals

> *Last June we set up our goals for the year as a whole staff. That established things right away from the start, so that we all know what road we were setting off on what we were trying to do. Throughout the year, (we're) focusing a lot, with small little inservice and staff meetings and short meetings before school and so on, so that everyone was getting ideas of what we were into with this program.*

The staffs perception of policy goals emerged as a particularly significant set of variables in both the interview and survey data. During interviews, both principals and teachers associated their choices of policy components for initial implementation with goal-related variables: the personal meaningfulness of the chosen component given their own professional experiences, goals and practices (11 school staffs); their own developing understanding of the policy and its contribution to primary programming (5 staffs); and the sense they made of their own professional reading, as it related to the policy (1 staff).

Two items concerning goals were included in the survey. One of these items (clarity of implementation goals) received modest ratings (ranked 8th) and was not significantly related to any implementation outcomes. The second item, however, was the highest rated of any on the survey and highly related to three of the four sets of policy implementation outcomes. This item concerned respondents perceptions of how compatible were the goals of the policy with the existing goals of their schools.

Teachers

> *Most helpful for implementation was the willingness of my staff to risk, because they did. They really did say 'yes, we'll go for it and we'll try some stuff we've never tried before.' They were willing to say 'we don't have all the answers but we're going to try.'*

"Staff commitment" was the variable associated with the teacher construct which the interview data identified as contributing most

to outcomes. All school staffs reported medium to high levels of such commitment; five of the twelve staffs indicated that it was the "most helpful" variable in implementing the policy.

Survey evidence concerning this construct was collected through four items. These items addressed teachers' input into and support for policy implementation decisions, as well as their motivation and commitment to such implementation. The scale formed by these items is moderately reliable (Cronbach's Alpha = .79) and significantly related to three of the four sets of outcomes (see Table 1).

Culture

> *The main purpose (for regular staff meetings to discuss the PP) for me is that we are exploring this together. That gives us that common basis for working together, even though, we don't spend time planning things that children do together. We've spent a lot of time on philosophy and working through ideas and I think that's really valuable. Then we go away and interpret that in our own way, but we still have the --- the bottom line is that we know what each other means even if we aren't all together.*

High levels of collaboration were reported on two of the four dimensions used to describe the form of teachers' culture -- teacher talk (12 staffs) and joint planning (12 staffs). Consistent with previous research (e.g., Little, 1982; Leithwood & Jantzi, in press), there was much less evidence of teachers either teaching (6 staffs) or observing one another (2 staffs). Seven school staffs reported that supportive colleagues were the "most helpful" factor in implementing the policy.

Table 1 indicates that culture was highly rated by survey respondents (ranked third) and strongly related to three of the four policy implementation outcomes. The school culture scale, in Table 1, is moderately reliable (Cronbach's Alpha = .84) and includes six items. These items focus on aspects of collaborative

work, school climate and working relationships within the school and between school and district staff.

Programs and Instruction

> *I'm trying to find as many multi-age strategies as I can for both the math and the language arts. And I'm really focussing on making sure that the strategies I'm using are multi-age because I hope to do the multi-age next year.*

Little data were available from interviews related to this variable. Responses to two items were combined to form a scale based on the survey: program fit with respondents own priorities and program goals coincident with one's own views and beliefs. These items are very similar in meaning to the goal compatability item reported earlier; similarly, they are highly ranked (third) and significantly correlated with three of four policy implementation outcomes. The scale formed by these two items falls below acceptable levels of reliability, however (Cronbach's Alph = .46).

School Policy and Organization

> *We have tried to improve the materials so that we have a lot more materials for the children in the class, the trade books and appropriate materials, and hands-on materials. We have done a lot in getting hands-on materials in this school ... We have a back-order of a beautiful sand table and water table. There is nothing new about any of those except it just helps to make the environment in the classroom much nicer ... I spent a lot of money this year on hands-on materials for the kids, lots on the primary books, lots on manipulative materials -- not only math and science -- we have had them for some time and keep improving on them and increasing them.*

In this variable are included school-level policies bearing on implementation of the policy, as well as aspects of school organization and resources available to the school (including some of the uses to which they were put, such as staff development). Taken together, the interview and survey data suggest that this is a potent set of variables in the policy implementation process.

Interview respondents in at least 3 of the 4 schools in each district reported evidence of district-based staff development. Only one of the twelve school staffs identified it as the "most helpful" factor in implementing the policy, however. Formal, school-based staff development was reported by fewer than half the schools (5): none identified it as "most helpful" in implementing the policy. About two thirds of the schools reported visits to other schools (8) or informal, school-based staff development (7). Two school staffs believed visits to other schools to be the most helpful factor in implementation. None held similar views of informal staff development in schools.

Resources, including release time, money and materials were considered adequate in almost all schools in two of the districts; this was not perceived to be the case by most schools in the third district, however. Physical arrangements were judged to be adequate by all schools in one district, not adequate by all schools in a second district and mixed in the third. All schools in one district judged personnel resources to be not adequate. When resources were not perceived to be adequate, their effects were judged to be negative. For example, inadequate facilities and resources was the most frequently identified obstacle to policy implementation in interviews with teachers (54%) and principals (50%) as mentioned earlier. This suggests that when policy and organization conditions are unfavorable, they hamper implementation. But largely favorable policy and organization conditions, as McLaughlin (1990) also claims, have to be combined with other implementation processes to make a significant contribution to the achievement of policy outcomes.

The three components of this school variable were treated separately in the survey. Table 1 describes the individual items considered to represent each of the three components. These items were combined to form three sub-scales. The school policy sub-scale includes only one items (staff transfer): it is the lowest

ranked item on the survey and not related to any category of implementation outcomes. The school organization sub-scale includes four items, three of which reflect the school's size. This is an acceptably reliable scale (Cronbach Alpha = .84) and significantly, and negatively, related to two categories of implementation outcomes (smaller is better). Four items are also included in the School Resources sub-scale. This sub-scale (Cronbach's Alpha = .71) is significantly related to three categories of outcomes.

Taken together, the interview and survey data concerning the Policies and Organization construct suggests that it is a potent variable in the policy implementation process.

Conclusion

In this section, we provide a brief summary of the study and comment on the apparent relevance of the criteria used to select districts, schools and school administrators for the study. We then draw attention to those results of the study which appear to be most significant and offer some observations about their consequences for conceptualizing policy implementation and school improvement processes. Of particular interest is the possibility of developing a coherent theory of leadership for change.

Summary

This study was intended to develop a conception of policy implementation based largely on commitment strategies, since such strategies seem most appropriate for the bulk of current school reform initiatives. Guided by a multi-level, social interaction perspective, interview, survey and journal data were collected from principals, teachers and district staff in 12 schools, in 3 school districts in British Columbia. At the time of data collection, these people were in the early stages of attempting to implement a new Ministry of Education policy entitled The Primary

Program. Questions were asked about the initial outcomes of policy implementation and process variables at the school, district and provincial levels most closely associated with those outcomes. Leadership variables were of special interest.

For reasons already explained, districts and schools were selected to represent variation in location and size. School administrators were selected so as so include variation in gender, age, and experience. Research giving rise to these sampling criteria was only partially confirmed by our study. There were very strong district effects evident in teachers' perceptions of implementation processes and outcomes: contrary to expectation, however, smallness was not associated with more positive perceptions. District effects were also evident in patterns of school administrator practices: all direct instructional leaders were from one district and four of the five indirect instructional leaders were from a second district. And while it is reasonable to associate less direct forms of instructional leadership with larger schools, no such relationship was evident in our data.

Neither age nor years of experience appeared to account for differences in the practice of school administrators. As expected, however gender did. All seven women in the sample, exercised either direct or indirect forms of instructional leadership; this was the case for only one of the five men. While gender is related to instructional leadership, so is district. Three of the five men were from one district and only one school administrator from that district showed evidence of instructional leadership.

A "Commitment Strategy" for change

The conception of policy implementation process developed from our data (and summarized in Figure 1) appears to model a more or less coherent set of "commitment strategies" for policy implementation. Most initiatives taken by those outside the school

seemed to have been aimed clearly at commitment-building. The Ministry, for example, provided resources to support school and district efforts and offered staff development about the rationale and conduct of the program. While both initiatives, objectively, might be viewed as part of a "control" orientation (input control), they were perceived as supportive and, therefore, helped build commitment. Perhaps as noteworthy, the Ministry suspended its use of a staple control output strategy routinely invoked by governments - province-wide achievement testing (of primary grades children, in this case). The most visible district strategies were very similar. These included provision of staff development, direct funding, which was perceived as supportive, and symbolic support to schools for their policy implementation efforts. Potentially available control strategies, such as systematic evaluation of school-level implementation or various forms of inspection at the classroom level, were nowhere evident in our data.

Most in-school components of our policy implementation model provide unambiguous support for the claim that commitment strategies were the primary instruments of change. With respect to the variable Goals, it was compatability between teacher and school goals and policy goals that especially influenced implementation outcomes (far more, in fact, than did staffs' clarity about the goals of the policy). Within the Teacher construct, teacher commitment, support for the policy's philosophy and teachers' expertise were most closely related to policy outcomes and rated as having greatest influence. Collaborative cultures were considered especially influential in achieving policy outcomes. Such cultures help to build cohesive support for policy-related practices and the beliefs and values underlying the policy.

Toward a theory of leadership for change through commitment

Given the emergence of a model of change based on commitment strategies, it is particularly important to clarify the nature of leadership which fosters such commitment. Results of the study offer three insights about such leadership. First, such leadership is frequently shared or distributed across those in several roles; for example, consultants, teachers and school administrators all played prominent leadership roles, often in the same schools. These results suggest that the leadership "pie" is quite elastic; paradoxically, perhaps when those in traditional leadership roles give away some of their leadership prerogatives, they may be left with the same or an increased amount. Leadership which contributes to commitment tends to distribute leadership functions much more on the basis of expertise than authority.

While distributed leadership facilitates the development of commitment to change, it is especially important for those with formal school leadership authority to consume a significant portion of the leadership pie -- based on their expertise. This is the second insight about leadership for change from our study. Where school administrators acted only as "building managers" or even "teacher-centred managers", change appeared to be more difficult. On the other hand, both direct and indirect forms of instructional leadership appeared to be equally useful, within a change process preoccupied with commitment strategies. This seems plausible since it is difficult to anticipate and help make the kinds of first and second order changes needed in a school engaged in significant reform: especially so if those with formal leadership authority are not directly monitoring the change process and quickly making the adjustments needed to keep the process moving fairly smoothly. Unaddressed problems of change quickly produce frustration among implementors and erode their commitment to continue.

The third insight about leadership for change that emerges from our study was the importance of practices associated with transformational leadership theory in building a commitment to change. There have been increasing references to such theory in the education literature recently (Sergiovanni, 1990; Sashkin, & Sashkin, 1990; Foster, 1990; Leithwood & Steinbach, in press). To our knowledge, however, the roots of this theory and its subsequent elaboration are to be found outside education in Bass, his associates and those directly influenced by his thinking (e.g., Bass, 1985; Bass & Avolio, 1989; Podsakoff, et al., 1990; Murray and Feitler, 1989). According to formulations from this literature, the foundation of a leader's impact is to be found in transactional behaviors with followers. These are essentially control strategies, to use Rowan's (1990) framework: behaviors which provide contingent reinforcement or reward organizational members for the positive contribution they make to the organization's goals. Transformational leadership produces an "add-on" effect, however, by elevating the goals, commitments, expectations and capacities of organizational members. As Podsakoff et al. (1990) claim, such transformation depends on the leader:

- identifying and articulating a vision;
- providing an appropriate model;
- fostering the acceptance of group goals;
- expressing high performance expectations;
- providing individualized support; and
- providing intellectual stimulation.

When items in our survey were clustered in order to reflect four of these six transformational leadership dimensions, the resulting scales correlated significantly with most categories of policy implementation outcomes. In contrast, no such relationships were evident for those leadership behaviors we referred to as "pressure" -- behaviors associated with transactional leadership. Much previous research has argued that administrative pressure (e.g., the use of control strategies), in various forms and combined with liberal doses of administrative support, makes an

important contribution to the success of change initiatives (e.g., Huberman & Miles, 1984). Our data suggest, however, that the need for and value of such pressure depends on the nature of the change being made and the initial disposition of those who are intended to implement it. In the current study, the policy was complex and not well specified; also, it was viewed by many primary teachers as endorsement of a set of practices which they have been attempting to implement for a number of years - often with very little support from some colleagues and administrators. The effect of the policy on these teachers was to make it easier to do what they had been attempting to do. The last thing that they needed was somebody else telling them to "get on with it". While there are certainly many circumstances where administrative pressure is a useful part of leadership practice, its value is contingent on the particular circumstances.

Taken piecemeal, the insights about leadership for change evident from our study are by no means novel. Much has been said already about distributed leadership, for example, and certainly this is also the case for vision and shared goals. It is the possibility of forging these piecemeal findings into a coherent theory of leadership for change that we believe to be the most exciting prospect emerging from the study. Such a theory would clarify more precisely the nature of the social interactions between leaders and other members of the school organization, in particular, which build commitment and enhanced capacities for change. The development of a well-tested theory of transformational leadership in education seems overdue and urgent in light of the complex, open-ended changes that will have to be made in schools in the future to satisfactorily meet the aspirations for education being placed on the reform agenda today.

Table 1

Summary of Survey Results

Scales	Items	Scale Reliability	Mean Rating (1-10) Mean	S.D.	Rank (1-13)	Correlation with Outcomes: Students	Culture	P & I	Policy
1. Ministry	1.1 availability of ministry personnel	na	4.8	2.02	12	.16	.00	.02	.05
2. District	2.1 endorsement of implementation decision	.59	8.4	1.59					
	2.2 support & involvement of senior admin.	.46	7.1	2.32					
	2.3 availability of system personnel	.51	7.3	2.38					
	2.4 provision of additional funds	.57	7.1	1.85					
	2.5 Overall Scale	.61	7.5	1.53	7	.12	.04	.23	-.12
3. Leadership: Vision	3.1 promotes program, provides motivation	na	8.8	1.48					
	3.2 assists in gaining community support	na	7.7	2.14					
	3.3 Overall Scale	.72	8.2	1.61	4	.35*	.50*	.39*	.18
4. Leadership: Group Goals	4.1 encourages teacher participation	.57	9.2	1.19					
	4.2 facilitates idea exchange	.55	8.6	1.81					
	4.3 facilitates regular meetings	.61	8.5	1.48					
	4.4 principal gives priority to goals	.56	8.4	1.50					
	4.5 Overall Scale	.64	8.7	1.15	1	.20	.45*	.27*	.05
5. Leadership: Support	5.1 helps teachers clarify needs	.66	8.2	1.69					
	5.2 facilitates external support	.71	7.3	2.11					
	5.3 provides materials and resources	.70	8.2	1.80					
	5.4 provides feedback	.70	7.9	1.81					
	5.5 endorsed implementation decision	.74	9.2	1.30					
	5.6 incentives provided	.66	5.8	1.86					
	5.7 support from principal	.70	8.4	2.32					
	5.8 Overall Scale	.73	7.9	1.12	6	.18	.29*	.25*	-.00
6. Leadership: Intellectual Stimulation	6.1 provides information re. process	.66	8.8	1.68					
	6.2 provides information re. program	.69	9.1	1.31					
	6.3 provides for training	.60	7.0	2.75					
	6.4 assesses skills and knowledge	.73	6.6	1.82					
	6.5 principal involvement	.63	8.3	2.05					
	6.6 Overall Scale	.72	8.0	1.29	5	.21	.18	.30*	.14

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Table 1 (Cont'd)

Scales	Items	Scale Reliability	Mean Rating (1-10) Mean	S.D.	Rank (1-13)	Correlation with Outcomes: Students	Culture	P & I	Policy
7. Leadership: Pressure	7.1 pressure to encourage involvement	na	6.6	2.00	8	.11	.24*	.11	.02
8. Principal Pressure	8.1 pressure to promote involvement	na	5.7	2.02	10	.11	.03	.20	-.07
9. School Goals: Clarity	9.1 clarity of implementation goals	na	6.6	2.23	8	.11	.02	.17	.08
10. School Goals: Compatibility	10.1 school and program goal compatible	na	8.7	1.53	1	.52*	.69*	.63*	.20
11. School Culture	11.1 collaboration to plan instruction	.84	7.1	2.13					
	11.2 collaboration to implement program	.77	8.4	1.52					
	11.3 tone or climate within school	.79	8.6	1.70					
	11.4 working relations within division	.82	9.0	1.29					
	11.5 working relations within school	.82	8.3	1.68					
	11.6 staff-administration relations	.80	8.6	1.81					
	11.7 Overall Scale	.84	8.3	1.13	3	.46*	.67*	.44*	.10
12. Teachers	12.1 input into implementation decision	.74	8.6	1.61					
	12.2 support for implementation decision	.67	8.6	1.43					
	12.3 motivation for implementation	.76	8.3	1.33					
	12.4 commitment to implementation	.77	9.0	1.40					
	12.5 Overall Scale	.79	8.6	1.10	2	.48*	.60*	.39*	.10
13. Program	13.1 program fit with own priorities	na	8.8	1.46					
	13.2 goals' coincidence with own views	na	7.8	1.48					
	13.3 Overall Scale	.46	8.3	1.16	3	.30*	.32*	.40*	.12
14. School Policy	14.1 transfer out of non-compliant staff	na	4.0	1.24	13	-.16	-.11	-.09	.03
15. School Organization	15.1 school size	.68	5.3	2.67					
	15.2 primary division size	.78	5.5	2.12					
	15.3 implementation of dual entry	.94	6.2	2.16					
	15.4 staff full-time-equivalent	.73	6.3	2.36					
	15.5 Overall Scale	.84	5.8	1.62	9	-.15	-.33*	-.27*	.09

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Table 1 (Cont'd)

Scales	Items	Scale Reliability	Mean Rating (1-10) Mean	S.D.	Rank (1-13)	Correlation with Outcomes: Students	Culture	P & I	Policy
16. School Resources	16.1 material resources	.52	6.6	2.16					
	16.2 financial resources	.58	6.6	2.11					
	16.3 release time for training	.67	6.2	2.48					
	16.4 release time for planning	.78	7.0	2.50					
	16.5 Scale reliability	.71	6.6	1.70	8	.31*	.26*	.32*	.10
17. School Community	17.1 parent involvement	na	5.7	1.58					
	17.2 community involvement	na	5.1	1.29					
	17.3 Overall Scale	.81	5.4	1.31	11	.16	.10	.24*	-.01
18. Outcomes: Students	18.1 positive attitudes toward learning	.63	9.0	1.21					
	18.2 actions & behavior reflect NPP goals	.53	8.3	1.20					
	18.3 active learning with manipulatives	.54	8.5	1.41					
	18.4 Overall Scale	.67	8.6	0.97	-	-	.61*	.61*	.25*
19. Outcomes: Culture	19.1 high expectations for students	.77	8.8	0.88					
	19.2 collaboration in curriculum	.76	8.1	1.91					
	19.3 staff seek greater knowledge/skill	.78	9.0	1.22					
	19.4 strong and supportive relationships	.77	8.8	0.95					
	19.5 staff input into decisions	.81	7.8	1.76					
	19.6 developing full potential	.78	8.2	1.57					
	19.7 similar attitudes values beliefs	.72	8.0	1.50					
	19.8 Overall Scale	.80	8.4	0.92	-	.61*	-	.57*	.21
20. Outcomes: Program & Instruction	20.1 varied work evaluated	.57	9.2	0.95					
	20.2 grouping not only on ability	.66	8.9	1.13					
	20.3 parents as active partners	.62	7.8	1.45					
	20.4 integration of subject areas	.55	9.0	1.00					
	20.5 active learning encouraged	.66	7.9	1.74					
	20.6 variety of learning settings	.59	9.3	0.91					
	20.7 Overall Scale	.67	8.7	0.62	-	.61*	.57*	-	.27*
21. Outcomes: Policy&Organ.	21.1 removed grade levels	na	7.6	1.99	-	.25*	.21	.27*	-

* $p < .05$

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